

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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SECURITY INFORMATION

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THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.
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1. The Izhorskiy Plant i/n Zhdanov was located on the northwest outskirts of Kolpino (N 59-45, E 30-37). The plant area was crossed by the Izhora River, which was used as a waterway for shipping some of the building material required at the plant. The plant had broad-gauge spurs to the main railroad at the Kolpino railroad station and an extension plant railroad system with 22 to 25 plant-owned locomotives. About 60 trucks were available also.
2. The plant was an old one and was fifty percent destroyed during the war. Although some machinery was evacuated at the time, the plant continued to manufacture ammunition and repair tanks throughout the war. After the war, its old machinery was reconditioned, and the new installations, including the turbo-electrical power station and a large new workshop hall in the west section of the area, were completed and given modern equipment, usually equipment dismantled in Germany and shipped to the USSR as reparations. In late 1949, reconstruction was still under way in almost all sections of the plant. Except for the shipyard, the turbo-electric station, and the old open hearth plant, however, all sections of the plant were in operation.
3. The plant consisted of a steel section with two open-hearth plants and an electrical steel foundry, a rolling plant with blooming mill, a profile-rolling mill and a tube-drawing plant, a shipyard, the construction of which began in late 1949, an engine-building plant with several assembly shops for tanks and assault guns, workshops for the manufacture of protective shields for tank and naval guns, and a locomotive workshop. Electric power was supplied through a 15,000-volt long-distance line on steel masts from the direction of Stalingrad. The plant's turbo-electrical

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power station was not in operation until late 1949. Only a small hydraulic power station in the southeast section of the plant area produced some of the electric power required by the rolling mills.

4. The production of the plant included the following items:

- a. Seamless tubes of various lengths, in diameters ranging between 50 and 80 millimeters, including tubes for oil industries. In early 1949, the daily production was reported to be 120 tons.
- b. Plates of various thicknesses, half of which were used in the plant (for example, as boiler plates) and half of which were shipped out.
- c. Bridge components, which were produced only once as a short-term delivery in 1947.
- d. Locomotive boilers with furnaces, about five meters long and two meters in diameter, which were built at the rate of eight boilers per day in 1947, and [redacted] were sent to a locomotive plant in Gorkiy (N 56-20, E 44-00) or, [redacted] were sent to Leningrad.
- e. Protective shields for antitank guns, 1 meter high, 1.5 meters wide, 0.6 meters deep with angular lateral protection, with a plate thickness of about 15 to 20 millimeters. These shields, painted with minium, were produced and were shipped at a daily rate of 10 to 15 truckloads in 1949.
- f. Protective turrets for naval guns, with a wall thickness of 25 to 30 millimeters and an inclination of about 60 degrees in the front and side walls, and a horizontal top plate. The rear walls were vertical. Some turrets were entirely enclosed, with a ladder at the side and an access hatch on the upper edge of the wall, while others had no rear wall. The gun turrets, which were manufactured in two sizes and with one, two, or three apertures, were either 3 meters high, 4 meters wide, and 2.5 meters deep, or 2.5 meters high, 2 meters wide, and 1.5 meters deep. Three or four carloads, each car carrying one large or two small turrets, were shipped daily in 1949.
- g. Upper parts of armored scout cars, similar to those of the German 8-wheel armored reconnaissance cars, which were produced in very small numbers from early 1948 to early 1949.
- h. Hulls and turrets for tanks and assault guns were produced. Ten hulls and a corresponding number of turrets were turned out daily in 1946 and 1947, although the daily output dropped to four per day in late 1949. The hulls, with turrets fitted on, but without engines, guns, suspensions, or tracks, were minium-coated and shipped to the Kirov works in Leningrad. [redacted] until early 1948, turrets and hulls were manufactured in the manner employed prior to the end of the war, with the turret cast and the hull welded together of armored plates. The new turrets manufactured since 1948 were described as turtle-back shaped, with, for the first time, cast hulls. The tank, rounded off on all sides, was noticeably low and very much resembled the German Panther-type tank. While the pre-1948 types were described as 6 to 8 meters long, 3 to 3.5 meters wide, and more than 2 meters high, the new type, [redacted] was 4.5 meters long and 1.8 to 2 meters high, with a road clearance of 0.5 meters and 2 apertures of about 500 millimeters in diameter on either side of the turret. The side armor of the hull was 100 millimeters thick, the front armor was 320 millimeters thick, and the armor in front of the driver was 280 millimeters thick. Four SP guns, with recesses in about the middle of the side wall for the bogie wheels, were assembled in early 1948.

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1. Chain links and bogie wheels were manufactured but not assembled. They were boxed and shipped to Leningrad. In 1947 the weekly production was 600 chain links, which were 550 millimeters long, 400 millimeters wide, and 20 - 25 millimeters thick. A total of 100 to 120 bogie wheels, 250 millimeters in diameter, were produced in one shift.²
5. Raw materials and consumable supplies included coal, boiler fuel, diesel oil, pig iron ingots, nickel and chromium ingots, manganese ore in bags, and, until August 1950, steel ingots, because the quantity of steel produced by the open hearth plant did not meet requirements.
6. [] the plant had a labor force of between 18,000 and 20,000 persons, 40 to 50 percent of whom were women. Work was done in three eight-hour shifts. Key employees were Eng. Yarosh (fnu), head of the reconstruction operations, and Milamidov (fnu), production manager of Shop No. 2, which produced armored car hulls. Production was regularly supervised by tank and naval officers.
7. The plant area was partially surrounded by a brick wall and partially by a wooden fence, and was guarded by soldiers outside the premises and at Shops Nos. 2 and 7, and by armed work police inside the plant area at the tank-building shop.

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[] Comment. Other information indicated that Semenov (fnu) was general manager of the plant. The blooming mill had a capacity of one million tons a year and the profile and plate rolling mills an aggregate capacity of 100,000 to 120,000 tons per year. The tube-making shop produced tubes for the oil industries, the peat industry, and the Leningrad subway. The plant also produced locomotive boilers and bogie frames for locomotives.

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1. [] Comment. The figures here given for the thickness of armor plate on tanks appear to be garbled. It is believed that armor for this type of Soviet tank varies in thickness between .8 and 5.3 inches.
2. [] Comment. It will be noted that there is a discrepancy between figures given in this paragraph and similar figures on page 17.

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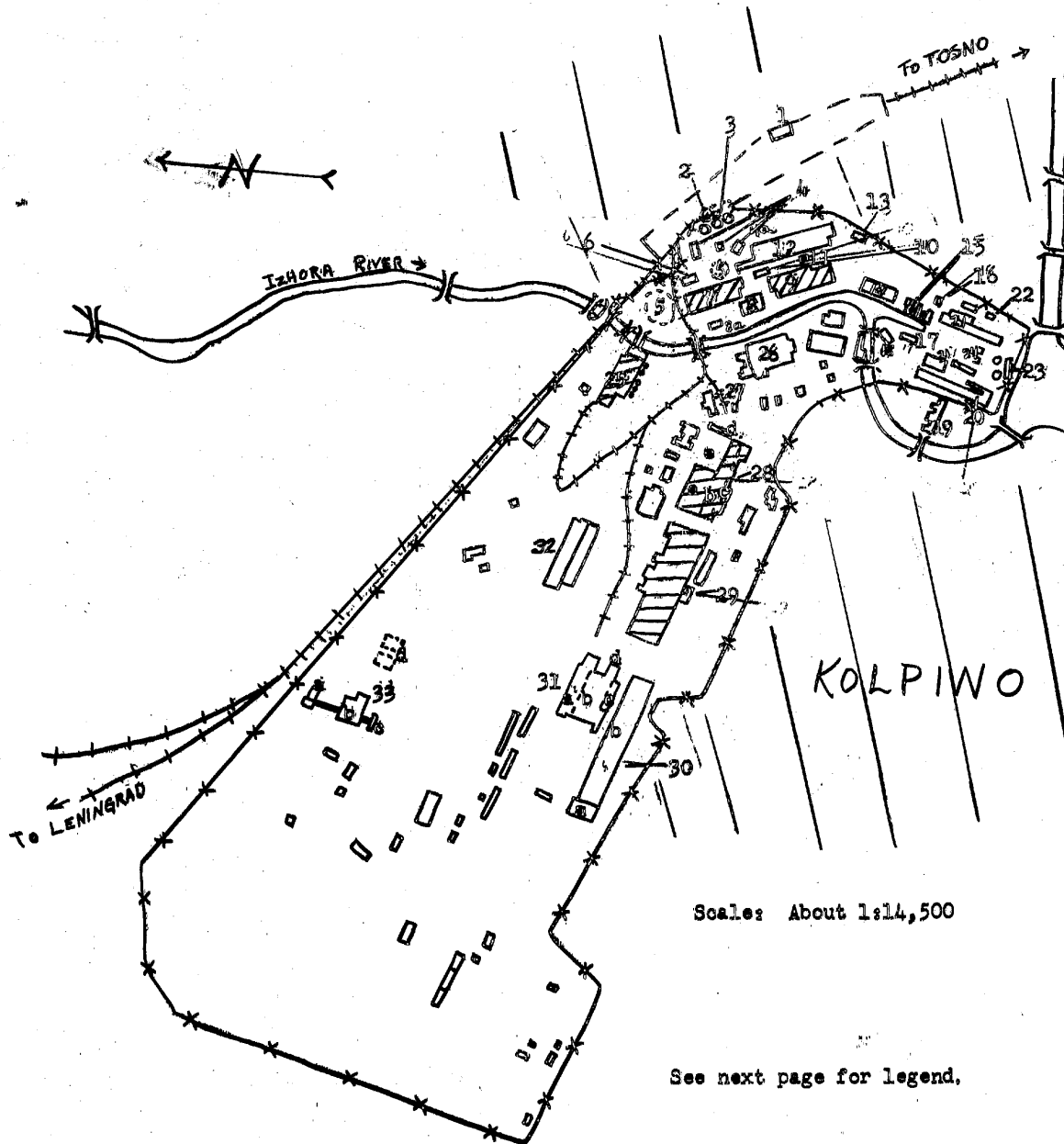
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The Metallurgical Plant at Kolpino



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Metallurgical Plant in Kolpino

Legend:

1. Kolpino railroad station, with eight to ten tracks.
2. Three vertical oil tanks, ten meters high and eight meters in diameter, and two or three horizontal containers six to eight meters long and 1.5 meters in diameter, the latter having been erected in 1948.
3. An underground oil depot with four 8 x 5 x 3-meter concrete basins capable of containing the total capacity of ten to fifteen small tank cars. The basins were filled with oil pumped from tank cars through underground concrete funnels. The tank depot, which provided the entire plant with fuel, was connected with the tube-making shop by three underground, 200-to 300-millimeter pipes, and, via this shop, with other sections of the plant.
4. Two small store sheds.
- 4a. A small plant section for the production of wall bricks from slags, called the Klin furnace.
5. Storage place for iron ingots, steel ingots, and rolled material.
6. Boiler house, with about ten coal-burning horizontal boilers, which provided the blooming mill, Shop No. 11, with steam power.
7. Blooming mill, Shop No. 11, equipped with one large rolling mill, three rolling mill trains, five or six annealing furnaces, three steam presses, and some machine tools for repairs.
8. Old open-hearth plant, whose rather badly-damaged five furnaces and smoke stacks were pulled down and re-erected early in 1949 when the workshop was expanded. Work on two open-hearth furnaces began in the summer of 1949. Production was expected to begin in 1950. The walls of the furnace were fitted with nozzles for oil burning.
- 8a. Kitchen for the personnel of the rolling mill and the open hearth plant.
9. Plate-rolling mill and profile-rolling mill, Shop No. 12, with two roughing rolls, each fitted with plate-rolling and profile-rolling bench, six annealing furnaces including two which were annular-type furnaces, an iron saw and a plate cutter for the manufacture of plates, a round iron bar for the tube-drawing shop, and a square iron bar.
10. Boiler house, Shop No. 27, with 27 coal-burning boilers, including 12 twin-flue boilers, each with two furnaces working at a pressure of 6 kg/cm² (85.5 pounds per square inch) and three marine boilers. Six of the twin-flue boilers were in operation during the day, and all the boilers started work at 2400 hours unless some were out of operation for repairs. The boiler house supplied the plate-rolling and profile-rolling mill, Shop No. 12, with steam, and in an emergency also supplied the blooming mill, Shop No. 11. The oil tank depot received steam pressure at 1600 hours, when oil was pumped into the entire plant. A boiler house, located in the south section of the site, was to service the oil tank in 1949. A coal dump near the boiler used crushed coal only, because in late 1947 a detonator hidden in the coal had blasted a boiler.
11. A settling basin, filled with water from the Izhora River, was mentioned by only one source.
12. Tube-drawing shop, Shop No. 14, equipped with a drawing bench, three metal saws, two special annealing furnaces with roller conveyers, an oil hardening bath, and one or two 10-12 ton ceiling crabs. This shop manufactured seamless tubes for the oil industries and tubes with welded seams, 500 to 200 millimeters in diameter. Some of the tubes were hardened.

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[redacted] the daily output was 120 tubes in mid-1949. Round iron produced in Shop No. 12 was used in the manufacture of tubes.

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13. Kitchen and canteen.
14. Shipyard building with hoist gear for putting finished barges in the water. In late 1949, the shipyard was under construction and not in operation. A partly completed barge was still in the workshop.
15. Boiler house for main power station, forge, and mechanical section.
16. Machine-tool section, Shop No. 23, containing about 20 lathes, and also vertical boring and drilling mills, five or six boring and drilling machines, and two 15-ton cranes for the repair of tools and the manufacture of replacement parts such as toothed wheels, shafts, and similar components.
17. Shipyard building under construction.
18. Forge and lathes shop in the upper story. For some reason, the angle irons on the bending machines were bent into a semi-circular shape, and, subsequently, to circles three meters in diameter.
19. Administration building.
20. Administration building with large drawing offices, design offices, managing engineer's office, and garage for the automobiles of the administration section.
21. These buildings, which were still in a state of destruction in mid-1949, had housed a chain-making shop, a plate-treating shop, and a galvanizing shop.
22. Electrode factory for the manufacture of welding electrodes for use at the plant.
23. Three buildings of a former monastery on a hill [redacted] designated as a monasterial castle. The middle building housed a small hydraulic power station which drove two turbines with water from a reservoir fed by the Izhora River. Machines in underground ammunition-making workshops built during the war were removed after the war, especially the modern machinery. Ammunition stocks still available were greased and stored in the underground areas.
24. Two shafts giving access to the underground ammunition plant.
25. Open-hearth section, Shop No. 10, the foundry and molding shop, Shop No. 25, with three small and one large open hearth furnaces, an electric steel furnace, some molding machines, dressing drums, and crane installations for hoisting steel blocks, tank turrets, and minor parts.
26. Screw and bolt section, Shop No. 5, with about 60 machine-tools including 12 large and new Skoda-made boring and drilling machines, five Waldshut-made boring and drilling machines, one Kaelble-made stamp press, several punching machines and lathes for the manufacture of screws, bolt nuts, and, [redacted] cold-drawing machines for water main pipes.
27. Locomotive repair shop, Shop No. 21.
28. Hardening shop, Shop No. 15, and plate-straightening shop, Shop No. 76.
 - a. Shop No. 76, plate-cutting shop.
 - b. Armored plate-straightening section, with several hydraulic presses.

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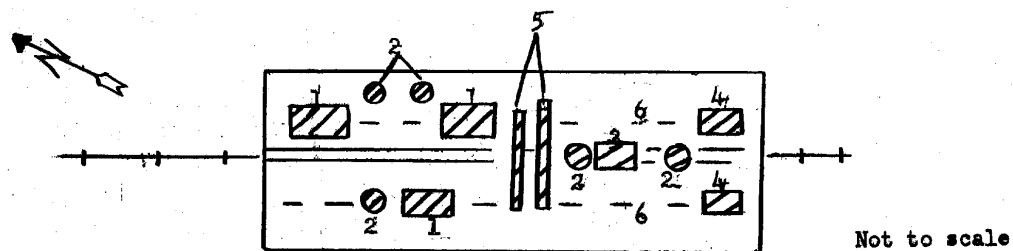
- c. Shop No. 15. Hardening shop with about ten mazut-burning hardening furnaces and a number of hardening baths.
 - d. Administration building.
 - e. Bay of workshop. No building operations observed here prior to late 1949.
29. Mechanical and assembly section, Shop No. 2. This shop has available 200 machine-tools for the manufacture of components and electric welding devices for the assembly of tank hulls.
30. Mechanical and assembly section, Shop No. 7, for the fitting of tank turrets on hulls coming from Shop No. 2, and of locomotive boilers.
- a. Workshop containing six small drilling machines, eight lathes three meters long, twenty riveting hammers, ten grinding machines, twenty electrical welding machines, a small hand forge, a locksmith's shop, a test stand for the simultaneous testing of two locomotive boilers, assembly or bogie frames, locomotive furnaces, or the hydraulic testing of boilers.
 - b. Tank assembly shop with two drilling machines, one hammer, a 6-meter lathe, one milling machine, one grinding machine for fitting the turrets on the two hulls coming from Shop No. 2 and assembling tanks, assault guns, and, in late 1948, the assembly of armored scout cars.
31. Mechanical section, Shop No. 6, for the manufacture of protective shields for antitank and naval guns. This section included a large 500-ton, American-made hydraulic press, and four pumps installed in 1948 (a).
- b. Stamping shop with four large stamping machines.
 - c. Hardening shop with three oil-burning annealing furnaces and oil baths for hardening antitank and naval gun shields.
 - d. Oxygen station with one large and four small compressors for filling oxygen bottles.
32. Workshop hall, still under construction in 1949.
33. Turbo-electrical station which was scheduled to provide the Izhora plant and the town of Kolpino with electric current.
- a. Coal unloading room with inclined conveyer to boiler house.
 - b. Boiler house and turbine room, with coal-crushing plant and coal bunker in its northern section, adjoined by the boiler plant containing two vertical-tube boilers and the turbine room; two turbines awaiting installation were stored in the area of the turbo-electrical station in the summer of 1949.
 - c. Switch panel for the seven transformers scheduled to be installed.
 - d. Two water reservoirs.

Most of the unnumbered installations of the plant were small, unidentified, auxiliary workshops.

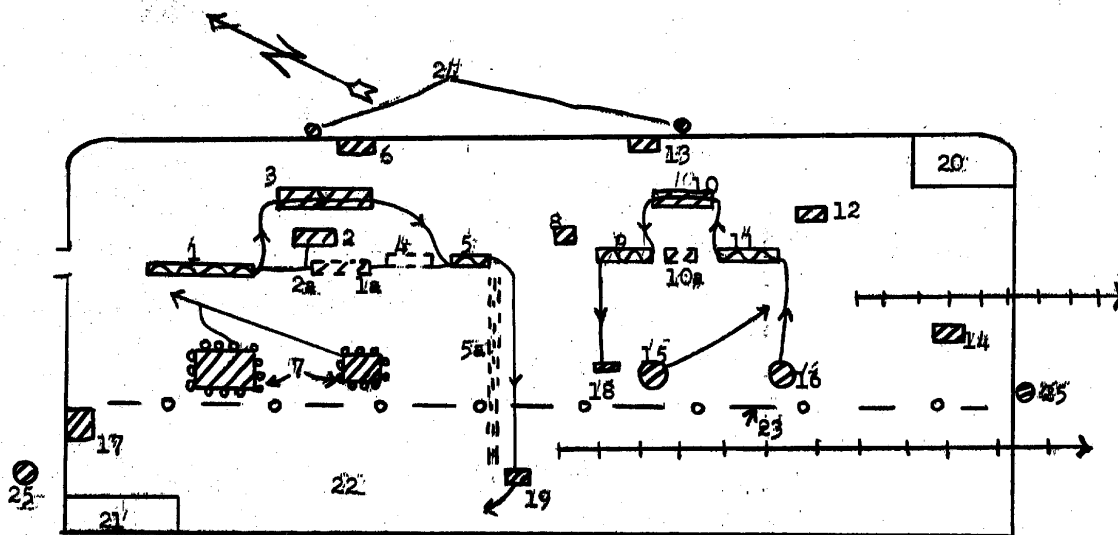
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The Blooming Mill, Shop 11

See next page for legend.

The Rolling Mill, Shop 12

See page 10 for legend.

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Blooming Mill, Shop No. 11

Legend:

The blooming mill, Shop No. 11, also called rolling mill 1200, began production in early 1947. Steel ingots were produced, but some steel had to be brought in from the Urals, as the steel production of the plant was inadequate prior to the reconstruction of the old open hearth furnace, which was not expected until 1950. Available at the blooming mill were a large rolling plant, with three rolling mill trains, with rollers of about 1 - 1.2 meters in diameter and about 4.5 - 5 meters long, and about five or six oil-burning annealing furnaces, each capable of taking five or six ingots. Plates of many different dimensions were produced, including plates 80, 100, 120, 150, 240, and 300 millimeters thick. The processing of one ingot took between 30 and 45 minutes. The finished plates were either molded on a press in the shop or sent to Shops Nos. 2 and 7 without treatment. [redacted] three steam presses, including one with a power of 200 tons, were available. Alternately, after heating pressed steel plates 150 millimeters thick into cupolas in the shape of spherical caps (1,400 millimeters in diameter and 900 millimeters high, with a circular opening in the top 500 millimeters in diameter, and, on one side, a vertical oval aperture 120 or 250 millimeters in diameter), the presses stamped out turrets in the shape of truncated cones 550 millimeters high, with sides which sloped at an angle of inclination of 45 to 60 degrees, and whose oval bases were 1,200 or 1,600 millimeters in diameter at the lower end. The upper surfaces had circular apertures 1,100 millimeters in diameter. The total daily output of the press was eight turrets, and the output per shift was two or three turrets. The other presses made angular parts for unspecified purposes. The section had a French-made boring machine for repair work, a 6-to 8-meter lathe for the repair of rollers, two Wanderer-made new chain cutter molding machines with 15 by 20 millimeter chains, and a steel cutter. Also available were two traveling cranes, with lifting capacities of 25 to 35 tons respectively.

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1. Three roller trains.
2. Five annealing furnaces.
3. Heavy press.
4. Two small presses.
5. Two traveling cranes, of 25 and 35 tons lifting capacity.
6. Conveyor.

The location of the machine-tools is not indicated on the sketch.

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Plate and Pass Rolling Mill, Shop No. 12

Legend:

- A. The hot-working and cold-working sections were separated by a row of pillars.
1. Large roughing roll machine, 3 meters wide, with 900 millimeter rolls driven by a large steam engine, for rolling 2.4 ton ingots or, occasionally, 1.5 ton chill castings, which were finished on the other rolling machines.
 - 1a. Hot air shaft.
 2. Large steam engine, with a working pressure of 5 kg/cm², which drove the large roughing roll machine and the plate rolls, and received steam from the boiler room of Shop No. 27. Steam pressure between the boiler house and the steam engine usually was between 6 and 8 kg/cm² and was occasionally 10 kg/cm². The engine was obsolete and unprofitable to operate because of its high steam consumption, which was about half the steam produced in Shop No. 27.
 - 2a. Coupling for rolling benches.
 3. Mazut-burning annealing furnace with fire-brick walls, with a sliding device for the plates prepared on the large roughing rolls and with a capacity of 40 to 45 plates, 1,100 to 1,300 by 450 millimeters.
 4. Old plate-rolling mill built in 1909, which was out of operation and was cannibalized to obtain replacement parts for the other rolling benches.
 5. A plate-rolling bench, two meters wide, with rollers 700 to 800 millimeters in diameter, driven by the large steam engine, which produced plates 3 to 15 millimeters thick with a surface of 1,500 to 1,600 millimeters by 450 millimeters. The average output between 1947 and 1949 was 110 plates per shift, and the maximum output was 130 plates. Fifty percent of the plates were shipped, tied together with wire, and the other fifty percent were cut to patterns and distributed to Shops Nos. 2, 7, and 15. The plate-rolling bench completed the work of the first rolling bench in accomplishing the final thinning of the plates. The two rolling benches, which, because of their different cycles of operation could not work simultaneously, were controlled from the steam engine by a clutch. Continuous operation was to be effected by a hot air shaft which the Soviets called termog, which was between the rolling benches. As this hot air shaft was not reliable, an annealing furnace was generally used.
 - 5a. Conveyor installation.
 6. 1,000-liter mazut container.
 7. Two electrically-driven, movable annealing furnaces which were burning mazut injected through four nozzles. The furnaces could handle 30 steel ingots of 1.5 or 2.4 tons. The annealing process took six to eight hours. These furnaces were inferior to annular furnaces inasmuch as their charges had to be removed entirely after each annealing process, and as they could not be refilled during operation. Thin plates could, however, be annealed in these furnaces.
 8. Small steam engine.

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9. Rolling bench, two meters wide with rollers 500 millimeters in diameter, for rolling round and square iron, and, occasionally, thin plates up to 20 millimeters thick. Driven by the small steam engine, it was used for processing semi-finished products from the roughing roller bench to make round iron, 60 to 150 millimeters in diameter, for the tube-drawing shop, and 80 by 80 millimeter square iron.
10. Mazut-burning annealing furnace fitted with fire-brick walls and a sliding device.
- 10a. Hot air shaft.
11. Roughing roller arrangement, 2.5 meters wide, with a roller 700 to 800 millimeters in diameter, driven by the medium-sized steam engine, for rolling 2.4 ton ingots. Billets, with cross sections 200 by 200 millimeters in diameter and 120 to 150 millimeters long, were produced. In 1947 and 1948, the production was 115 tons, or 44 billets per shift.
12. Medium-sized steam engine.
13. 1,000-liter mazut container.
14. 1,500-liter mazut container supplying the annular furnaces. The oil was pumped under steam pressure into the containers of the factory from the tank depot near the railroad station.
15. A small annular furnace with a capacity of forty-five 2.4-ton billets, which was burning mazut injected through nozzles and turned around its vertical axis. The annealing process took eight hours.
16. A large annular furnace taking seventy 2.4-ton billets.

B. Cold-Working Section

17. Mazut container.
18. An iron saw blade with a circular saw blade 1,100 millimeters in diameter, driven by two British-made electrical motors for cutting the red-hot, profiled, rolled material.
19. An electrically-driven plate shear for cutting thin plates, up to 20 millimeters thick, from the plate-rolling bench.
20. Workshop with a fitter's shop and an electrical repair shop, for maintenance work at the plant.
21. Destroyed electric annealing furnace.
22. Storage place for finished rolled material.
23. Row of pillars.
24. Two red brick smoke stacks, 20 to 25 meters tall.
25. Two red brick smoke stacks, 30 to 35 meters tall.

Each of the two rolling benches worked alternately by shifts, the third shift being used for removing debris.

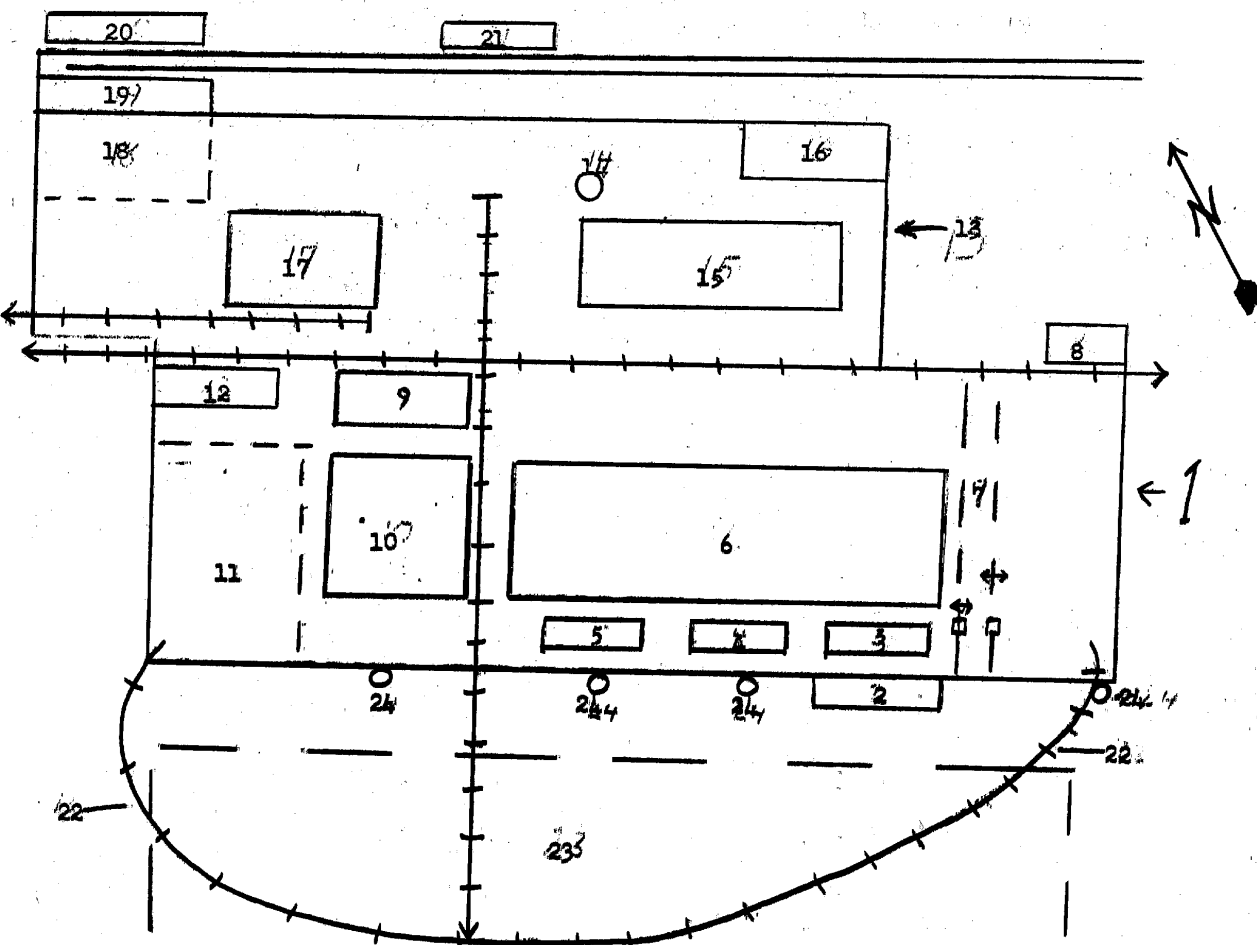
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The Open Hearth Shop, No. 10, and the Foundry and Molding Shop, No. 25



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Open-Hearth Section of Shop No. 10 and Foundry
and Molding Shop of Shop No. 25.

Legend:

1. Open hearth section of Shop No. 10.
2. Office and laboratory of Shop No. 10.
- 3, 4, and 5. Open hearth furnaces 2, 3, and 4 from west to east, each with a capacity of 50 to 60 tons.
6. Gravel pit for mold casting.
7. Two traveling cranes, each with a lift capacity of ten tons, for charging the open-hearth furnaces, two 120-ton cranes, six or seven 50-to 70-ton cranes not indicated on sketch, and two or three special cranes for moving the foundry ladles.
8. Kitchen.
9. Large open hearth furnace No. 1, with a capacity of 120 tons, for casting armored turrets.
10. Gravel pit for molding operations.
11. Mold store.
12. Dressing shop, with 10 to 15 pneumatic hammers, connected with the open-hearth furnaces, which were charged mainly with scrap and only occasionally with small amounts of pig iron, to which were added nickel, chromium, vanadium, and manganese. They were emptied once during an eight-hour shift, but one was usually under repair. Two large 60-ton tubs and three or four 20-ton tubs, which were lined anew after each operation, were available for the casting. The medium-sized square molds were mounted on round cast iron foundation plates in groups of four, and the 3-ton molds were mounted in groups of six. There were also large molds for casting 40-to 60-ton ingots. The large ingots were carried to Shop No. 11, the blooming mill, and the medium-sized and small ingots were carried to Shop No. 12, the plate and pass rolling mill. Since mid-1949, the finished cast ingots have remained only one or two days in the open hearth shop; no large stocks were available. Soviet workers stated that the chromium-vanadium steel was used for making armored tank plates.
13. Foundry and molding shop of Shop No. 25.
14. A new, American-made electric steel furnace two meters high and two meters in diameter, which was put into service in 1947 and had three graphite electrodes, two of which formed a pair. Cast items included toothed wheels 1,500 millimeters in diameter, and spoke and disk wheels, 500 millimeters in diameter.
15. Molding shop for casting small components.
16. Compressor room for two compressors with fly wheels, two meters in diameter.
17. Molding shop for casting armored tank turrets, which received its casting mixture in casting tubs from the open furnace shop. A new kind of armored tank turret, helmet-shaped and without sharp edges, was cast after the spring of 1948. They were 1,800 millimeters long,

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1,200 to 1,500 millimeters wide, about 750 millimeters high, and 45 millimeters thick. The front side of the cupola had a heavy bulb and an aperture for the gun. A round opening, 500 millimeters in diameter, for which the cover was made in the foundry, was in the apex of the turret toward the rear end. In mid-1949, the turrets were carried to Shop No. 7 to be ground and assembled upon completion of the casting operations.

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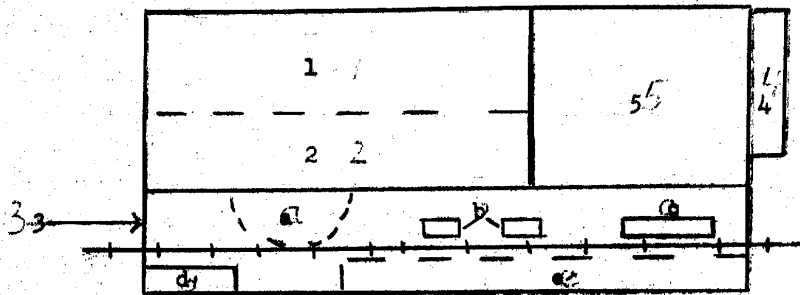
a tank hull of one casting was produced for the first time in early 1948. Three or four sand mixers, four drum cleaners for castings, and several molding machines were available.

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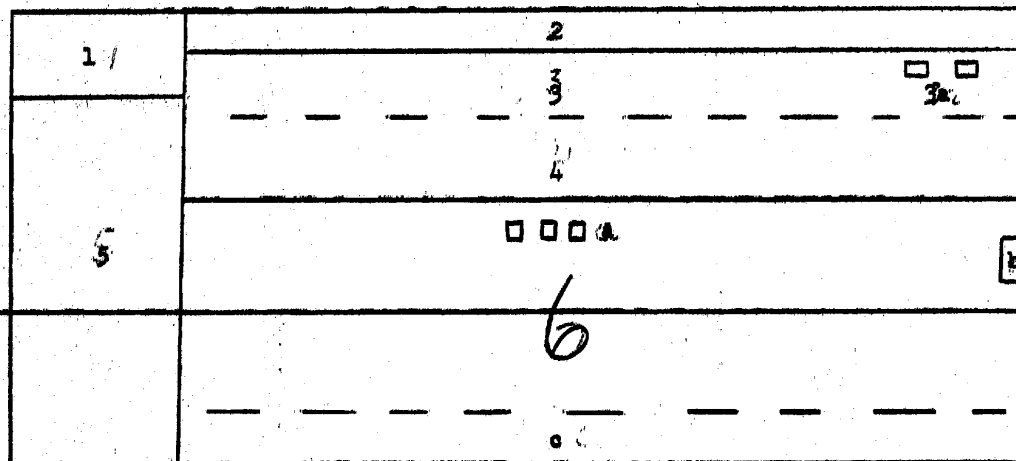
18. Mold store.
19. Office.
20. Transformer.
21. Repair plant.
22. Crane track for carrying scrap to the open hearth furnace section.
23. Scrap dump.
24. Smokestack.

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Straightening and Hardening Shop for Tank Plates

Legend:

1. Shop No. 76, at which armored plates were cut to size with cutting torches by means of templates.
2. Workshop with two or three hydraulic presses and one heavy hammer, straightening and hardening armored plates.
3. Hardening shop, Shop No. 15.
 - a. Dressing of tank turrets.
 - b. Two water-hardening baths.
 - c. One oil-hardening bath.
 - d. Mechanical workshop.
 - e. About ten oil-burning annealing furnaces.
4. Administration building and forwarding office for Shop No. 15.
5. Unfinished woodshop section.

In 1949, a compressor installation with three or four boilers, each 15 to 16 meters tall and 700 millimeters in diameter, was under construction in the middle of workshop section 3 adjoining workshop section 2. The finished items were forwarded to Shop No. 2 on electrically-driven, low trucks.

Mechanical and Assembly Section of Shop No. 2.

Legend:

1. Packing section for tank chain links and rollers which were shipped in boxes.
2. Administration rooms and warehouses.
3. Mechanical section with two rows of 30 lathes each.
 - a. Two large boring and turning mills, each with a diameter of about seven meters, used for making circular tracks for tank turrets, were erected in 1948.
4. Mechanical section with two rows of 30 boring machines, each with swinging arm for working on the chain links.
5. Mechanical section with 20 vertical lathes for tank rollers.
6. Mechanical and assembly section.
 - a. Three planers.
 - b. Concrete mixing plant, which, in 1949, produced concrete for other machine foundations.
 - c. Mechanical section, with two rows of 30 lathes, three large grinding machines (up to two meters in diameter), and numerous electric welding machines for assembling tank hulls. Armored

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plates for these hulls, which came up to 150 millimeters thick but was in most cases only 25 to 30 millimeters thick, arrived from Shop No. 15 to be finished and welded together. In late 1947, the weekly output of Shop No. 2 was 600 chain links (55 millimeters long, 40 millimeters wide, and 20 to 25 millimeters thick; they had to be smoothed and bored), and 100 to 170 rollers (250 millimeters in diameter), per shift, with six vertical benches working and the manufacturing process consisting of perforating the hubs and pressing in the bronze bushes, and requiring about 30 minutes for each roller. A total of ten tank hulls was simultaneously assembled at the assembly shop in 1949 and, upon completion, were forwarded on cars to Shop No. 7.

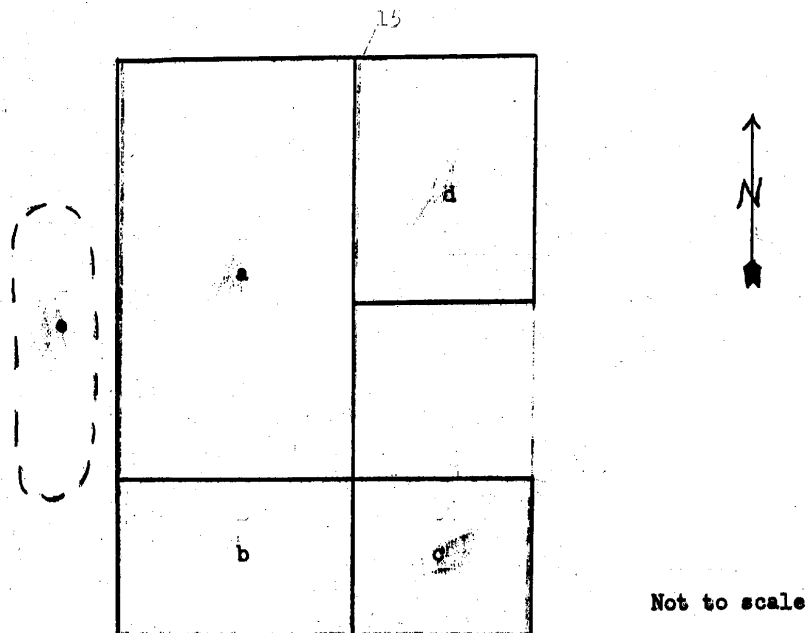
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Main Electric Power Station Southeast of the Izhorskiy Plant



For Legend, see next page.

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Main Electrical Power Station Southeast of the Izhorskiy Plant

Legend:

- a. Boiler section with six horizontal flue boilers, whose boiler house was being thoroughly reconditioned to supply power steam to the oil tank depot near the railroad station, the rolling mill, and the turbine plant. A steam-driven power plant had allegedly existed there previously. A destroyed turbine still lay near the building.
- b. A transformer installation for eight transformers.
- c. Administration building.
- d. Mechanical section and forge, with 15 machine-tools, several welding apparatuses, a 10-ton crane, some forge fires, and a hammer with a piston 300 millimeters in diameter and a dropping height of two meters.
- e. A modern coal dump, with elevated track, concrete bunker, and circular spur track for carrying coal to the boilers.

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